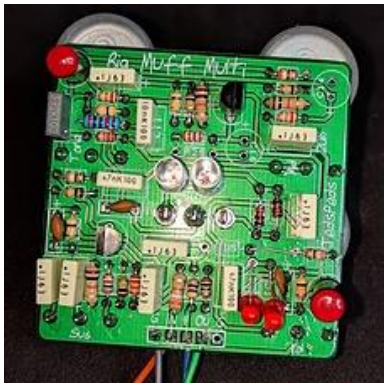
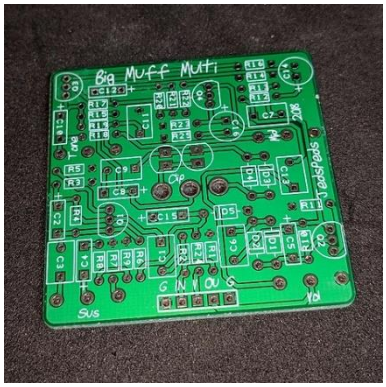
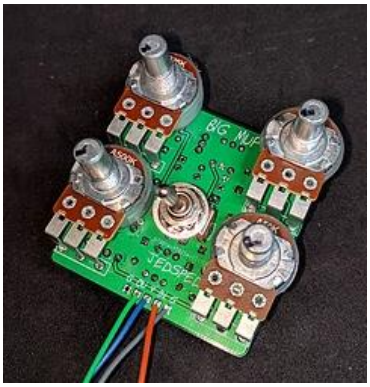
www.Jedspeds.co.uk

Big Muff Multi PCB Kit (2018 version)







Please read the guide in full before starting your build. If it is blatantly obvious you haven't read it and contact us for help then don't be surprised if we tell you to read the guide again… harsh I know.

Parts List – Triangle Spec

R1	1m	R12	12k	R23	2k7	C1	100n	C12	100n
R2	3k3	R13	8k2	R24	100r	C2	Omit	C13	100n
R3	82k	R14	82k			C3	100n	C14	100u
R4	390k	R15	390k			C4	100n	C15	100n
R5	820r	R16	820r			C5	560p		
R6	22k	R17	22k			C6	47n	D1-4	914
R7	1k	R18	39k			C7	100n		
R8	8k2	R19	39k			C8	560p	VOL	100ka
R9	Omit	R20	390k			C9	47n	Sus	100kb
R10	390k	R21	100k			C10	3n9	TONE	100kb
R11	150r	R22	12k			C11	10n	Mid	Omit
								Q1-4	5088

Parts List – Violet Rams Head Spec

R1	1m	R12	10k	R23	2k7	C1	100n	C12	100n
R2	39k	R13	8k2	R24	100r	C2	470p	C13	100n
R3	100k	R14	100k			C3	100n	C14	100u
R4	470k	R15	470k			C4	100n	C15	100n
R5	100r	R16	100r			C5	470p		
R6	15k	R17	15k			C6	100n	D1-4	914
R7	1k	R18	39k			C7	100n		
R8	8k2	R19	39k			C8	470p	VOL	100ka
R9	100k	R20	390k			C9	100n	Sus	100kb
R10	470k	R21	100k			C10	3n9	TONE	100kb
R11	100r	R22	10k			C11	10n	Mid	Omit
								Q1-4	5088

Parts List – Red Army Spec

R1	1m	R12	12k	R23	2k7	C1	100n	C12	100n
R2	39k	R13	10k	R24	100r	C2	430p	C13	100n
R3	100k	R14	100k			C3	100n	C14	100u
R4	470k	R15	470k			C4	100n	C15	100n
R5	390r	R16	390r			C5	430p		
R6	12k	R17	12k			C6	47n	D1-4	914
R7	1k	R18	22k			C7	100n		
R8	10k	R19	20k			C8	430p	VOL	100ka
R9	100k	R20	470k			C9	47n	Sus	100kb
R10	470k	R21	100k			C10	3n9	TONE	100kb
R11	390r	R22	10k			C11	10n	Mid	Omit
								Q1-4	5088

Parts List – Creamy Dreamer Spec

R1	1m	R12	15k	R23	2k2	C1	1uf	C12	100n
R2	39k	R13	8k2	R24	Jumper	C2	470p	C13	100n
R3	100k	R14	100k			C3	47n	C14	100u
R4	470k	R15	470k			C4	1u	C15	100n
R5	Jumper	R16	jumper			C5	470p		
R6	15k	R17	15k			C6	1u	D1-4	914
R7	1k	R18	47k			C7	1u		
R8	8k2	R19	47k			C8	470p	VOL	100ka
R9	100k	R20	390k			C9	1u	Sus	100kb
R10	470k	R21	100k			C10	4n7	TONE	100kb
R11	jumper	R22	10k			C11	10n	Q1-3 Q4	5089 5088

Parts List – Green Russian Spec

R1	1m	R12	12k	R23	2k7	C1	100n	C12	100n
R2	39k	R13	10k	R24	100r	C2	470p	C13	100n
R3	100k	R14	100k			C3	100n	C14	100u
R4	470k	R15	470k			C4	100n	C15	100n
R5	390r	R16	390r			C5	470p		
R6	12k	R17	12k			C6	47n	D1-4	914
R7	1k	R18	22k			C7	100n		
R8	10k	R19	20k			C8	470p	VOL	100ka
R9	100k	R20	470k			C9	47n	Sus	100kb
R10	470k	R21	100k			C10	3n9	TONE	100kb
R11	390r	R22	10k			C11	10n	Mid	Omit
								Q1-4	5088

Parts List – Black Russian Spec

R1	1m	R12	12k	R23	2k7 *	C1	100n	C12	100n
R2	39k	R13	10k	R24	100r	C2	470p	C13	100n
R3	100k	R14	100k			C3	100n	C14	100u
R4	470k	R15	470k			C4	100n	C15	100n
R5	390r	R16	390r			C5	470p		
R6	12k	R17	12k			C6	47n	D1-4	914
R7	1k	R18	22k			C7	100n		
R8	10k	R19	22k			C8	470p	VOL	100ka
R9	100k	R20	470k			C9	47n	Sus	100kb
R10	470k	R21	100k			C10	3n9	TONE	100kb
R11	390r	R22	10k			C11	10n	Mid	Omit
								Q1-4	5088

*2k will work.

Parts List – Stoner Spec

R1	1m	R12	10k	R23	2k7	C1	100n	C12	100n
R2	33k	R13	10k	R24	100r	C2	560p	C13	100n
R3	100k	R14	100k			C3	100n	C14	100u
R4	470k	R15	470k			C4	100n	C15	100n
R5	470r	R16	150r			C5	560p		
R6	10k	R17	10k			C6	1u	D1-4	914
R7	1k	R18	33k			C7	100n		
R8	10k	R19	33k			C8	560p	VOL	100ka
R9	100k	R20	470k			C9	1u	Sus	100kb
R10	470k	R21	100k			C10	4n7	TONE	100kb
R11	150r	R22	10k			C11	10n	Mid	Omit
								Q1-4	5089

Parts List – 70s Muff Spec

R1	1m	R12	15k	R23	2k2	C1	100n	C12	100n
R2	39k	R13	8k2	R24	100r	C2	470p	C13	100n
R3	100k	R14	100k			C3	1u	C14	100u
R4	470k	R15	470k			C4	1u	C15	100n
R5	100r	R16	100r			C5	470p		
R6	15k	R17	15k			C6	100n	D1-4	914
R7	1k	R18	100k			C7	1u		
R8	8k2	R19	39k			C8	470p	VOL	100ka
R9	100k	R20	390k			C9	100n	Sus	100kb
R10	470k	R21	100k			C10	3n9	TONE	100kb
R11	100r	R22	10k			C11	10n	Mid	Omit
								Q1-4	5088

Parts List – Civil War Spec

R1	1m	R12	12k	R23	2k7	C1	100n	C12	100n
R2	39k	R13	10k	R24	100r	C2	560p	C13	100n
R3	100k	R14	100k			C3	100n	C14	100u
R4	470k	R15	470k			C4	100n	C15	100n
R5	390r	R16	390r			C5	560p		
R6	12k	R17	12k			C6	47n	D1-4	914
R7	1k	R18	22k			C7	100n		
R8	10k	R19	20k			C8	560p	VOL	100ka
R9	100k	R20	470k			C9	47n	Sus	100kb
R10	470k	R21	100k			C10	3n9	TONE	100kb
R11	390r	R22	10k			C11	10n	Mid	Omit
								Q1-4	5088

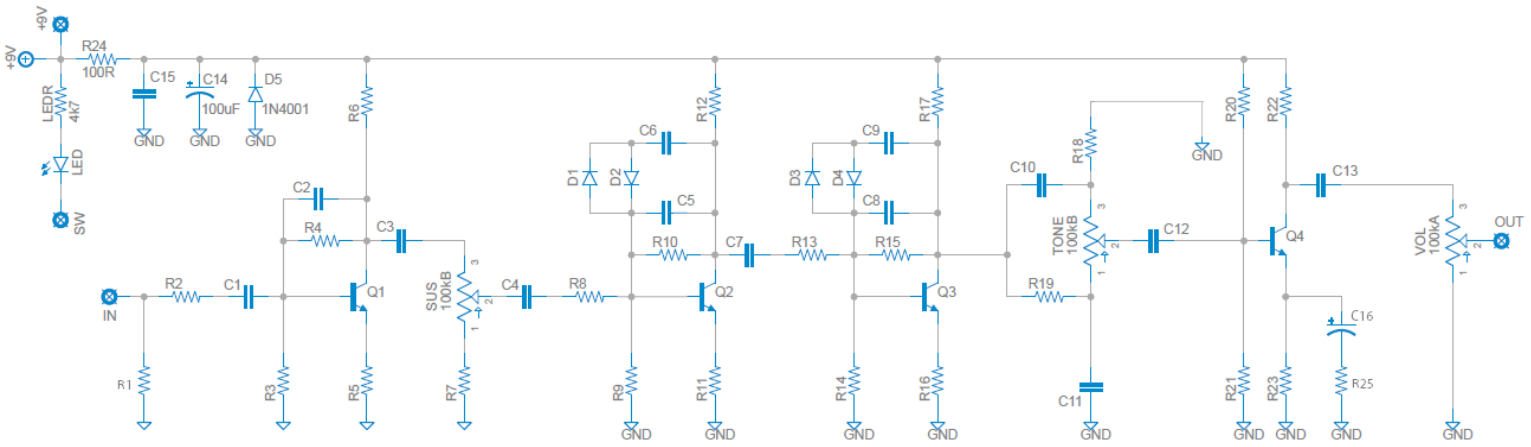
Parts List – Whoof Muff

R1	1m	R12	12k	R23	2k7	C1	100n	C12	100n
R2	39k	R13	10k	R24	100r	C2	470p	C13	100n
R3	100k	R14	100k			C3	100n	C14	100u
R4	470k	R15	470k			C4	100n	C15	100n
R5	390r	R16	390r			C5	470p		
R6	12k	R17	12k			C6	47n	D1-4	914
R7	1k	R18	22k			C7	100n		
R8	10k	R19	20k			C8	470p	VOL	500ka
R9	100k	R20	470k			C9	47n	Sus	50KA
R10	470k	R21	100k			C10	3n9	TONE	100kb
R11	390r	R22	10k			C11	10n	Mid	25kb
								Q1 +4	3904
								Q2 + 3	GE NPN

Kit Specific Build Notes

- D5 is featured on the PCB. It is an optional extra bit of power filtering. There is already a fair bit of filtering in the circuit in my opinion…it's up to you, experience noise – drop in a 4001
- Each kit comes with the clipping toggle switch included. Its not featured on the originals, however I think it's a worthy addition to the kit itself so the decision has been made 😊 There are two LED shaped spots above the clipping toggle switch, which is where they fit. You don't have to use LED's, try any other diodes you like.
- The tone pot will have to wire into place on any kit where the Mid pot is not featured.

Schematic for Reference



General Build Instruction

The first thing you must do is identify your parts from the pack. As a rule, I build from small to big – therefore step one will be to identify the resistors and any diodes inside your kit.

Each kit has a parts list at the top of the guide. So as an example, if R1 is listed as a 1M resistor then you dig out a 1M from the pack and place it on the PCB in the R1 spot. It's your call if you put one in and solder or put a few in or even put them all in and solder. I'll let you decide.

The front of the PCB is the side with the white writing on (the silkscreen)

You then need to follow the same process for all the other parts included. Working in height order mount the rest of the parts to the PCB ensuring that you solder them in place well as you go.

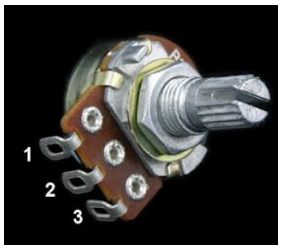
Some parts are quite heat sensitive so you must be careful when soldering them. Diodes, chips and transistors mainly. They can easily burn out by overheating.

I would then add the offboard wires, starting with nice long ones leaving them to be trimmed to length later. Finally, I add the pots either mounting them to the board or wiring them into place.

Useful links

Resistor calculator

Pots

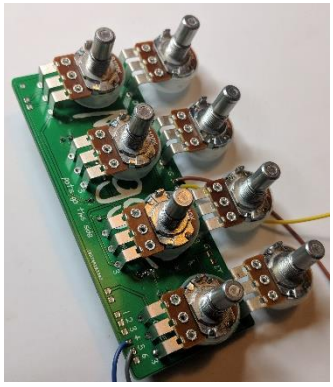


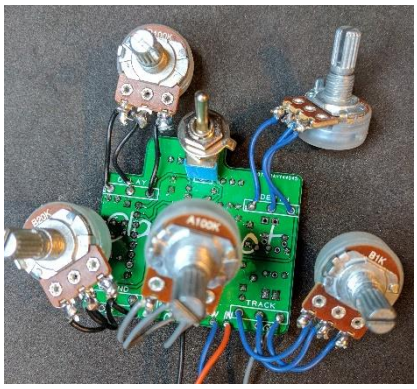
Pin Numbers for the pots. Snap the little metal tag off before trying to put it through the holes in the box.

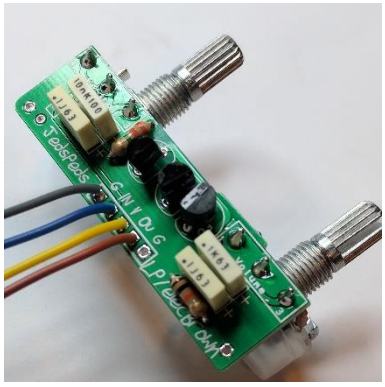
Some of our PCBs are now designed to use right angled mount pcb potentiometers. They mount from the rear as indicated by the pcb. We will provide right angled pots as stocked, this means that

you may receive a “normal” pot on occasion and you will have to wire it. It’s not that inconvenient now is it.

The other options for pots are that they are wired into place or the PCB hangs from them.







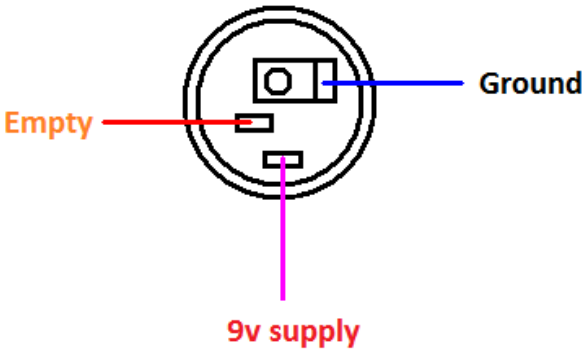
Hooking up the Jacks

Our kits come with mono jacks. They have two connections, a positive or the tip connection. And a negative, or sleeve connection.

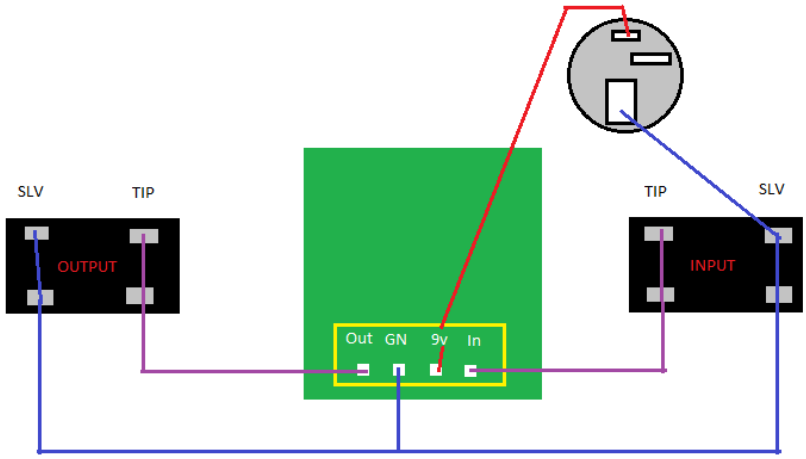
The tip connections will connect to the 3PDT as shown later in the guide unless there are instructions otherwise.

The sleeve connections are ground points, all grounds throughout a build must connect. The Jack socket will then connect to the enclosure and ground the case.

Power Socket



TEST THE BOARD



When you get to the stage with the board and pots wired you need to test the board before you add the foot switch. Firstly, don't put it in the box – I see people building inside a tiny enclosure and I wonder why. Some PCB's are tight enough as it is without reducing your workspace to 6cm wide!

Connect Input pad to TIP of Input jack. Same with output. Then connect the power to the 9v pad. Connect all grounds together (board, jack sleeves and 9v) If your board is working at this point then you can start work on the switch! If not…get double checking! If you email asking me why your pedal isn't working the first thing I will ask is… "did it work without the switch?", so make sure you follow this step.

If your PCB is working you are ready to connect the board to the footswitch! Follow the next stages meticulously and all being well by the end of it you will have a lovely finished pedal!

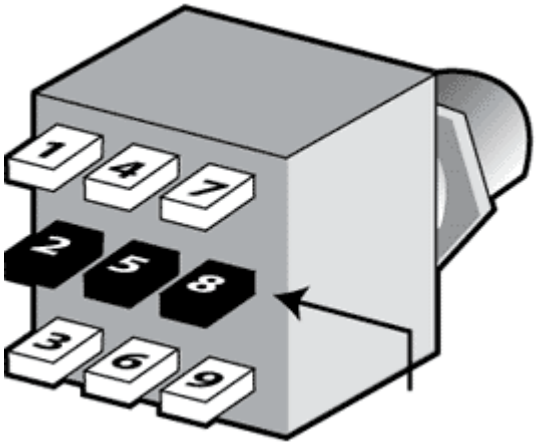
The next step involves undoing the tip wires from the PCB as they will now move to the 3PDT.

If its not working at this stage then you need to find out why. Do not continue beyond this point until you get it working. Adding a footswitch will not magically make a circuit work.

Troubleshooting is a necessary evil at times.

The Footswitch.

Have a look at the footswitch. It has 9 pins. The orientation of the switch is crucial. If you do it wrong your switch will not work, you might ruin it and you will certainly have to un do it.



The pins on the switch must run left to right like this, so the top row of pins would be 1, 4, and 7.

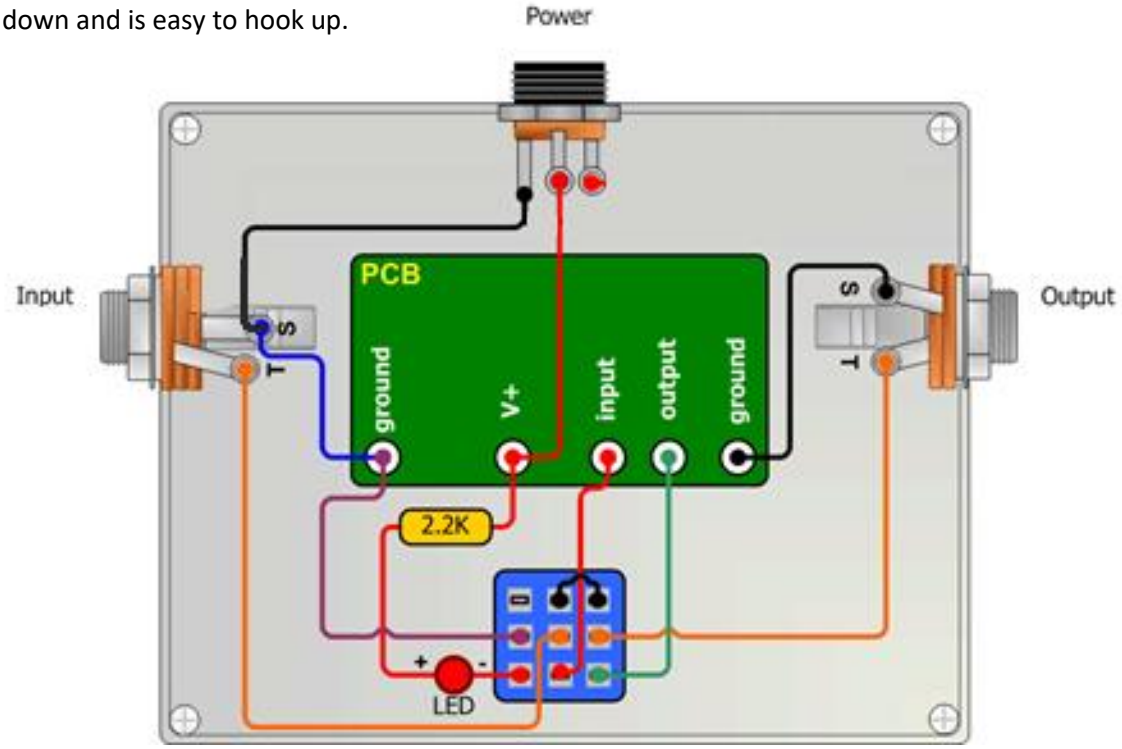
If you put it in with 1, 2, and 3 across the top row you are wrong.

To help you a little further with ensuring the orientation of your switch is correct. To compare both 3PDT images you would have this…

Pin 1 – Empty
Pin 2 – Ground
Pin 3 – LED
Pin 4 – Pin 7
Pin 5 – Input Jack tip
Pin 6 – PCB Input
Pin 7 – Pin 4
Pin 8 – Output Jack Tip
Pin 9 – PCB Output

Please make sure you get the switch the correct way!

There are loads of ways to wire up the footswitch. I use this one, I always have. Its never let me down and is easy to hook up.



The 2k2 resistor can be any value up to 4k7. You will have a spare in the kit to use.

Good luck and happy soldering!

PCB Design Notes

1. All PCBs are designed by ourselves, and tested before sale.
2. Box caps are shown with a + polarity mark on the silk screen, this is irrelevant as the box caps are non-polarised so can go either way.
3. Spare ground points may be provided on the PCB layout, use them if you wish but there is no requirement to.